Share Multi Academy Trust

Curriculum Planning Template

Subject: Statistics Year 11 Ability All

Half Term 2 / weeks	**Weeks 1-4**	**Week 5-6**
Topic	Block 3 – Algebraic Manipulation	Reteach and Retention - statistics
Topic overview **Pupils will learn…**	To extend GCSE algebraic manipulation to include higher powers than quadratics and GCSE trigonometry to include the trigonometric identities	In preparation for the Mocks, focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed.
Components	• Expand (a+b)^n for positive integer n (use of Pascal's Triangle) • Use of Factor Theorem for integer values for integer values of the variable, including cubics • Completing the Square • Algebraic solution of linear equations in three unknowns • Using nth terms of linear and quadratic sequences. Limiting value of a sequence as n tends to infinity • Be able to use the definition of the trigonometry functions for any positive angle up to 360 degrees • Use of trigonometrical identities • Solution of simple trigonometric equations in given intervals	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
What pupils should already know (prior learning components)	Students should be able to expand brackets up to cubics. Students should be able to factorise a quadratic. Students should be able to solve a pair of simultaneous equations in two unknowns. Students should be able to find the n'th term in linear and quadratic sequences. Students should be familiar with the definitions of the trig functions and be able to solve a basic trig equation.	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
Transferrable knowledge (skills)	This unit takes GCSE algebra and extends it to cover topics which are covered in the first term of the A Level course. It introduces the idea of limits of sequences which become important at A Level. The use of trigonometrical identities and using these both to solve equations and also in proofs will be seen again and extended at A Level. The use of Pascal's triangle opens up the field of combinatorics.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students' ability to answer these and directly sequential problems.

Key vocabulary pupil will know and learn	Factor, binomial, quadratic, cubic, Pascal's triangle, theorem, identity, proof	
Assessment activities	Homework: Algebraic Manipulation Test: End of half term test	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Corbettmaths: Further Maths – algebra and geometry	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes **Why this topic is important…**	This topic uses factor notation to explore the idea of a factor of a higher order equation leading to the important Factor Theorem which allows factorisation of some higher order polynomials. The idea of sequences having limits allows then for these to be found to enable plotting of a wider range of functions. While GCSE maths looks at solving pairs of simultaneous equations, this topic extends this to sets of three equations in three unknowns. Finally an extension to trigonometry is covered looking at two key trigonometric functions which are very important at higher levels. These are used to solve trig equations which are harder than GCSE as well as using them in proofs.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.